MEDICAL PROCEEDINGS

MEDIESE BYDRAES

A South African Journal for the Advancement of Medical Science

'n Suid-Afrikaanse Tydskrif vir die Bevordering van die Geneeskunde

Registered at the General Post Office as a Newspaper

By die Hoofposkantoor as Nuusblad Geregistreer

Vol. 3 · No. 14 · 5s

Johannesburg
6 July 1957 Julie 6

Jaarliks £1 : 1 : 0 Yearly

IN THIS ISSUE · IN HIERDIE UITGAWE

British Bursary for Post-Graduate Study in the United Kingdom

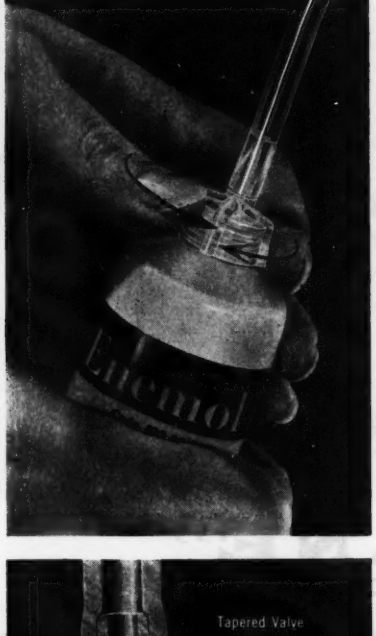
The attention of general practitioners registered in South Africa is drawn to page 348 of this issue, where we publish the conditions governing this post-graduate award for clinical study for a 3-month period in the United Kingdom—Editor.

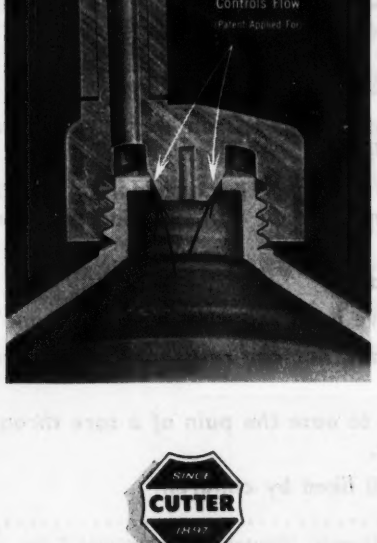
Selection Committee

The members who have agreed to serve on the Selection Committee for this Bursary are: Prof. G. A. Elliott, Prof. F. Forman, Prof. S. F. Oosthuizen, Dr. H. A. Shapiro (*Honorary Chairman*), Dr. Maurice Shapiro, Dr. M. M. Suzman.

Publishers: Juta and Co. Ltd. P.O. Box 1010 · Johannesburg: P.O. Box 30 · Cape Town

Uitgewers: Juta en Kie. Bpk. Posbus 1010 · Johannesburg: Posbus 30 · Kaapstad





Turn-Valve Cap Gives New Enemol* Positive Flow Control

Just a turn of the valve cap on this Cutter disposable enema unit allows critical adjustment from closed to desired rate of flow. All awkwardness of control during insertion is eliminated . . . a turn for the best in enema administration. This Cutter *exclusive* valve design even permits the clearing of air from the rectal tube prior to insertion.

Clinical Tests Lead to Optimum Rectal Tube

These tests produced a 6 inch rectal tube sufficiently stiff for ease of insertion yet smooth and pliant to the patient. Possible damage to the mucosa is prevented by the soft round tip.

Control Numbers on Every Unit

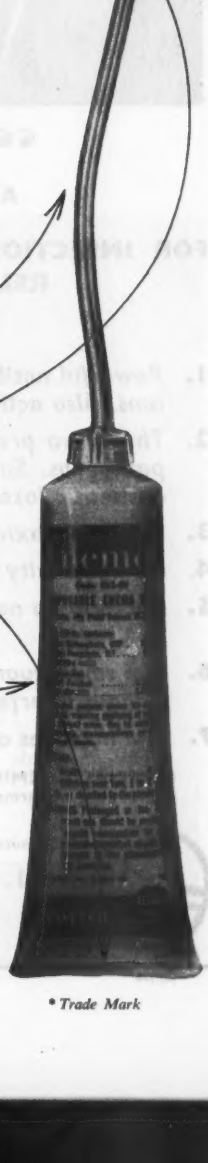
Positive indication of safety and uniformity is maintained through rigid controls and tests of Enemol.

Enemol Formula

Clinical studies show that for routine enemas, the time-proved phosphate solutions are superior for both cleansing effects as well as cost of administering.[1]

Packed in easy-to-handle 24 to a case, 4½ oz. units.

1. Kehlmann, W. H., Time Study On New Enema Technic, Modern Hospital, May 1955.



SINCE CUTTER 1907

Enemol

CUTTER LABORATORIES
Berkeley, California

represented by **PROTEA PHARMACEUTICALS LIMITED**
7, Newton Street, Wemmer, Johannesburg, P.O. Box 7793
Telephone 33-2211 Tel. Add. "MANLU", Johannesburg
Branches at Cape Town, Durban, East London, Port Elizabeth and Salisbury.

* *Trade Mark*

Medical Proceedings · Mediese Bydraes

Vol. 3 · No. 14 INDEX · INHOUD 6 July 1957 Julie 6

MEDICAL PROCEEDINGS

MEDIESE BYDRAES

A South African Journal for the Advancement of Medical Science

'n Suid-Afrikaanse Tydskrif vir die Bevordering van die Geneeskunde

P.O. Box 1010 · Johannesburg | Posbus 1010 · Johannesburg

Vol. 3 | 6 July 1957 Julie 6 | No. 14

EDITORIAL · REDAKSIONEEL

ANOTHER ANTIBIOTIC ADVANCE

The army of antibiotic drugs seems for the moment not to be adding new members to its already considerable ranks. Instead, research is pressing forward along pharmacological lines. One of the latest advances on this front is the development of a phosphate salt or combination of tetracycline. This has the unusual (and unexpected) effect of stepping up the blood levels of the drug to almost double in the first few hours. The high concentration is associated with a markedly increased rate of absorption from the gut.

The mechanism whereby this happens is by no means clear. One theory is that the phosphate additive acts in the way certain phosphate water softeners do, by rendering inactive elements which may otherwise link up with the antibiotic so as to produce a less soluble compound, thus impairing the absorption gradient. Another hypothesis explains matters on the assumption that the phosphate salt is more soluble or has its passage through the mucosa facilitated by an at present unknown absorption mechanism. But the normal diet already contains considerable, indeed excess, amounts of phosphate. For this reason it is at present difficult to understand why the further addition of trivial amounts of this radical should so markedly influence the blood levels.

The clinical result, in any event, is to bring to bear a very much more considerable con-

VERDERE VORDERING OP ANTIBIOTIESE GEBIED

Dit lyk asof geen nuwelinge op die oomblik by die reeds aansienlike geledere van die leër van antibiotiese middels gevoeg word nie. In plaas daarvan word die navorsingswerk hoofsaaklik op farmakologiese gebied voortgesit. Een van die jongste vorderings aan hierdie front is die ontwikkeling van 'n fosfaatsout of 'n samestelling van tetrasiklien. Dit het 'n buitengewone (en onverwagte) effek, naamlik om die bloedpeil binne die eerste paar uur byna te verdubbel. Die hoë konsentrasie is geassosieer met opvallend groter absorpsie uit die derm.

Die meganisme wat hiervoor verantwoordelik is, is nog glad nie duidelik nie. Een teorie lui dat die fosfaatadditisie naastenby optree soos sekere fosfaatwaterversagters, d.w.s. deur elemente wat andersins miskien met die antibioticum sal verenig om 'n minder oplosbare samestelling te produseer, onaktief te maak, en hierdeur die absorpsie-gradiënt te verswak. 'n Ander hipotese verduidelik sake op grond van die veronderstelling dat die fosfaatsout meer oplosbaar is, of dat die deurgang daarvan deur die slymvlies vergemaklik word deur 'n absorpsiemeganisme wat op die oomblik nog onbekend is. Maar die normale dieet bevat reeds aansienlike, inderdaad oortollige hoeveelhede fosfaat. Om hierdie rede is dit op die oomblik nog moeilik om te begryp waarom die verdere byvoeging van onbenullige hoeveelhede van hierdie grondstof so 'n merkbare effek op die bloedpeil het.

centration of the drug much more rapidly on bacteria in the blood stream or on bacterial foci capable of being reached through the circulation. It is true that these concentrations may, in fact, be higher than are actually required, although this particular point has not yet been proved. Where rapid and high concentration are needed in cases where the tetracycline (alone or in combination) is the appropriate therapy, the phosphate form of the antibiotic can to-day be expected to achieve this pharmacological feat.

Associated with the rapid absorption and concentration of the drug in the blood, is a more rapid rate of excretion in the urine. The result is that some 6-8 hours following the administration of the dose, blood and urine levels approximate those reached when the usual tetracycline is taken by mouth. The evidence therefore does not at present suggest a reduction in the frequency of administration of the drug.

The full therapeutic implications of this new development still need to be worked out at the bedside and this thorough clinical assessment is an important undertaking to which all practitioners can contribute. Further reports of controlled investigations will be awaited with interest, especially so that the results can be considered in relation to the impressions obtained by the vast army of general practitioners already engaged in subduing our bacterial enemies.

Die kliniese resultaat, in elk geval, is om 'n veel groter konsentrasie van die middel veel vinniger toe te spits op die bakterieë in die bloedstroom of op bakteriese foci wat deur die bloedsomloop bereik kan word. Dit is waar dat hierdie konsentrasies inderdaad hoër kan wees as wat nodig is, hoewel hierdie besondere aspek van die saak nog bewys moet word. As vinnige en hoë konsentrasies nodig is in gevalle waar tetrasiklien (alleen of in samestellings) die geskikte terapie is, kan daar verwag word dat die fosfaatvorm van die antibioticum hierdie farmakologiese prestasie tot gevolg sal hê.

Verbonde aan die vinnige absorpsie en konsentrasie van die middel in die bloed is ook die vinniger afskeiding daarvan in die urine. Die gevolg is dat ongeveer 6-8 uur ná die toediening van die dosis die bloed- en die urine-peil naby kom aan dié wat bereik word wanneer gewone tetrasiklien mondeling toegedien word. Die getuienis dui derhalwe op die oomblik nie aan dat die toedieningsfrekwensie verminder moet word vir sover dit hierdie middel betref nie.

Die volle terapeutiese implikasies van die nuwe ontwikkeling moet nog by die bed van die pasiënt vasgestel word, en so 'n deeglike kliniese bepaling is 'n belangrike onderneming waartoe alle mediese praktisyns iets kan bydra. Met belangstelling word daar gewag op verdere verslae oor gekontroleerde ondersoekingswerk, veral sodat die resultate oorweeg kan word in die lig van die indrukke wat verkry is deur die groot leërskare van algemene praktisyns wat reeds betrokke is by die pogings om ons bakteriese vyande van kant te maak.

PREMATURE BIRTH

A REVIEW OF ITS INCIDENCE AND PREVENTION

WITH SPECIAL REFERENCE TO MATERNAL NUTRITION IN THE EPIDEMIOLOGY OF PREMATURITY

SIDNEY L. KARK, M.D. (RAND.)
Department of Social, Preventive and Family Medicine, University of Natal

and

Institute of Family and Community Health, Durban

Premature birth is one of the commonest developmental problems met with in medical practice. It has a high stillbirth and neonatal mortality rate and, as a result of the increased frequency with which such conditions as intracranial haemorrhage are associated with it, its effects on the subsequent development of those who survive is profound.

This review is concerned with the incidence of prematurity, its association with late foetal

and early infant mortality, and a consideration of the possibilities of reducing its incidence by improved maternal nutrition.

THE INCIDENCE OF PREMATURITY

The definition of a premature birth, recommended in 1937 by the International Committee at Geneva and now accepted for practical purposes by most workers, is related to the weight of the baby at birth rather than to the length of the gestation period. An infant weighing 5½ lb. or less at birth is regarded as premature.

The incidence of prematurity in South African babies as a whole is not known. A study carried out by Salber and Bradshaw[14] of the Institute of Family and Community Health gives us some indication of the position. Their investigation of birth weight included African, European and Indian babies born in various hospitals in Durban and Pietermaritzburg.

The mean birth weight differed in the 3 groups:

	Male	*Female*
European	7.59 lb.	7.34 lb.
African	6.89 lb.	6.64 lb.
Indian	6.59 lb.	6.32 lb.

With these marked differences it might be expected that the proportion of premature babies born in each group would be different. The following figures indicate this to be so:

European: 4.2% of 1,757 babies.
African: 11.5% of 7,611 babies.
Indian: 18.3% of 1,738 babies.

As the prognosis for survival is markedly affected by the weight of the baby, a further analysis of their data has been made (Table I). The disparity noted in respect of the total prematurity rate as between the 3 racial groups is found in the smallest premature babies.

TABLE I: THE INCIDENCE OF PREMATURE BIRTHS ACCORDING TO WEIGHT OF BABIES BORN IN SOME HOSPITALS OF DURBAN AND PIETERMARITZBURG

(Calculated from Salber and Bradshaw's data, 1951)

Birth Weight	*European*		*African*		*Indian*	
	No.	*% of Total Births*	*No.*	*% of Total Births*	*No.*	*% of Total Births*
Less than 3½ lbs.	5	0·3	72	0·9	22	1·3
Between 3½ and 4½ lbs. ..	10	0·6	188	2·5	62	3·6
From 4½ to 5½ lbs.	58	3·3	619	8·1	234	13·4

It must be remembered that the study referred to was confined to babies born in hospital. As there is considerable variation in the use made of the hospitals by the different groups, the degree of selection of kinds of cases admitted to hospital for delivery may have an important relationship to the birth weight of the babies born. Thus it is well known that fewer Indian women have their babies in hospital than do African or European. It is likely that the proportion of abnormal cases of those Indian women who do have their babies in hospital is higher than for the others.

Further studies of the distribution of birth weight of babies are, therefore, needed if we are to have a more truly representative picture of the incidence of prematurity in this country. Such studies are being pursued by the Department of Social, Preventive and Family Medicine of the University of Natal, in several communities in Durban.

Other studies in South Africa, and elsewhere in Africa, indicate that the mean birth weight of African babies in various parts is below the expected standards for European and American white babies. The following findings by various workers in other parts of Africa, reviewed by Jelliffe[9] are of comparative interest in relation to the African figures of Heyns and Hersch[8] and Salber and Bradshaw[14] in this country:

Nigeria:
Ibadan[18]: 6.3.
Lagos[21]: 6.8.
Belgian Congo: Mayomba[22]: 6.4.
Nyasaland: Rural[23]: 6.6.
South Africa:
Durban and Pietermaritzburg[14]: 6.8.
Durban[8]: 6.8.
Johannesburg[8]: 6.7.
Alexandra Township[8]: 7.3.

The differences found in Africans of different parts of the continent are as great as those found between European, African and Indian babies of Durban and Pietermaritzburg. In fact, two groups of Africans, viz. those of Ibadan (Nigeria) and of Mayomba (Belgian Congo) weigh as little as, if not less than the Indian babies, and one group, viz. that of Alexandra Township, Transvaal, had a birth weight only slightly below that of the European babies in Durban and Pietermaritzburg.

This suggests that the birth weight differences, and hence the variation in the incidence of premature births between the

Natal groups of women, is the result of factors which can be influenced by measures promotive of maternal health.

THE ASSOCIATION OF PREMATURITY WITH FOETAL AND INFANT MORTALITY

South African requirements for birth certification do not include a record of the birth weight. As a result it is not possible to determine the stillbirth and infant mortality rates of premature births in this country. In parts of the world where this has been a requirement, e.g. New York City since 1939, it has been possible to determine the mortality of premature babies according to their birth weight. Thus, Baumgartner[3] reported the following death rates in premature infants under the age of 1 year in New York City 1947:

Birth Weight (in g.)	*Death Rate per 1,000 Births*	
	White	*Non-White*
Under 1,000 gm.	939	914
1,000—1,499	544	568
1,500—1,999	180	182
2,000—2,499	47	62

While similar figures are not available here, an analysis of the stillbirth and infant mortality rates of Durban for the 5-year period 1950-54 will assist.

Apart from the obvious differences in mortality between the various sections of Durban's population, the following facts emerge from the analysis of Table II:

1. The European group is the only one in which mortality in the first month of life is greater than that during the remainder of the first year. In fact, deaths in the first week are more common than in the remaining 51 weeks of infancy.

2. The Indian group is the only one in which there is a marked difference between the stillbirth and first week mortality rates. Whereas its stillbirth rate (39.57) is almost twice that of the first week mortality rate (21.62), among Europeans and Africans the stillbirth rates (12.40 and 58.29 respectively) are slightly below that of the first week mortality rates (16.47 and 69.98 respectively).

3. The differences in mortality of babies in the different population groups is not consistent for different ages. Thus the European total infant mortality rate is more markedly superior to that of the other sections than is their neonatal mortality rate and even more so than in the first week mortality. In this last respect the European figure of 16.47 is in fact very little superior to that found in the Indian (21.62).

4. The African figures are markedly higher than those of the other two groups in all respects. While the mortality rate is no doubt very high in this section of the population, the figures analysed are probably an overstatement of the position. This is because births are not yet as adequately reported as are infant deaths.

Of particular relevance to our present considerations are the stillbirth and neonatal death rates, as it is these that are so often associated with prematurity. The causes of death in cases of stillbirth are not available for analysis, but records of the reports by medical practitioners for infant deaths are available. The most commonly reported cause of death in the first week of life is 'prematurity'. Other reported causes having a high incidence in premature births were 'congenital debility', congenital atelectasis or asphyxia neonatorum and intra-

TABLE II: THE STILLBIRTH AND INFANT MORTALITY RATES OF DURBAN EUROPEANS, INDIANS AND AFRICANS FOR THE 5-YEAR PERIOD 1950-54

	European	*Indian*	*African*
Stillbirth Rate: (Per 1,000 total births in the period)	12.40	39.57	58.29
Infant Mortality Rate: (Deaths in infants under 1 year of age per 1,000 live births in the period)	26.81	74.75	355.96
Post-Neonatal Mortality Rate: (Deaths in infants over 1 month and under 1 year per 1,000 live births in the period) ...	8.05	42.77	248.3
Neonatal Mortality Rate: (Deaths in infants under 1 month of age per 1.000 live births in the period)	18.76	31.78	107.6
First Week Mortality Rate: (Deaths in infants under 1 week of age per 1,000 live births in the period)	16.47	21.62	69.98

cranial haemorrhages. Table III indicates the mortality rate for each one of these causes. The high rate of death reported to be due to prematurity among Africans is particularly noteworthy. The rate of 27.90 (including only those reported as 'prematurity') is greater than the total infant mortality rate of European babies under 1 year of age, viz. 26.81.

TABLE III: COMMON CAUSES OF DEATH IN THE FIRST WEEK OF LIFE OF DURBAN EUROPEAN, INDIAN AND AFRICAN BABIES BORN BETWEEN 1950-1954 (expressed as the mortality rate due to each certified cause)

	European	*Indian*	*African*
Total First Week Mortality Rate:	16.47	21.62	69.98
Prematurity	8.71	11.53	27.90
Congenital debility	0.52	1.87	3.01
Congenital atelectasis	3.32	1.57	4.93
Intracranial haemorrhage	0.52	1.68	6.74
Other Commonly Reported Causes of Death:			
Gastro-enteritis	0.07	0.44	3.89
Acute respiratory infection	0.07	1.54	5.80

Another significant feature emerging from the figures of Table III is the relatively low first week mortality rate ascribed to prematurity in the Indian group (11.53). If the incidence of prematurity as judged by birth weight is a reflection of the true position, a higher mortality rate would have been expected. It is suggested that the following aspects need further consideration in this regard:

The smaller size of Indian infants is probably related to the size of their mothers. Hence a lower standard of 'prematurity' than 5½ lb. birth weight might be more applicable for this group. However, it is probable that other factors are operative in maintaining an unexpectedly high survival rate in these babies during the neonatal period. This has been the subject of special study.[12] The preliminary results indicate that despite very poor economic and living conditions, the neonatal mortality rate is relatively low and two aspects are being considered further. Firstly, we are concerned with the possibility of biological adaptation to undernutrition operating over a number of generations and, secondly, to the care of the infant during the puerperium and subsequent weeks of life. It is suggested that careful study of their management during this period will be of assistance to modern medicine.

MATERNAL NUTRITION AND PREMATURITY

A number of studies has been directed towards the relationship between maternal nutrition and foetal development. While the evidence is conflicting, the following features emerge from a number of the studies reported.

The Toronto study of Ebbs, Tisdall and Scott[6] and the Harvard studies of Burke *et al.*[4] indicate a significantly higher incidence of premature births in women eating a poor diet than in those relatively well fed. The Harvard Studies were able to relate birth weight and the average daily intake of protein by the mothers. As their findings are of particular relevance to the local situation reviewed above, they are included here:

Daily Intake of Protein (In grammes)	*Average Birth Weight (In Lb.)*	
	Boys	*Girls*
Under 45	6.34	5.87
45-54	6.99	6.88
55-64	7.44	7.50
65-74	8.12	7.74
75-84	8.23	8.05
85 and over	9.13	8.49

The Toronto study is of further interest as it indicated that therapeutic food supplements and dietary advice during pregnancy modified the outcome of the pregnancy. The incidence of premature birth in their non-supplemented poor diet group of women was 8% in contrast to those of the poor diet group who were given supplements, among whom the prematurity incidence was reduced to 2.2%. This latter figure compared more than favourably with that of the good diet group, viz. 3%. Associated with the lower prematurity incidence, there was a lower occurrence of miscarriages, stillbirths and infant mortality in the supplemented group.

Similar encouraging results were reported by Balfour[2] in depressed areas of Wales and England, and by Graham[7] in Glasgow. Graham's analysis of the diets of 3 groups of

women who had had stillbirths, live premature and full term births, revealed important differences. The most marked superiority of those who had full term babies was found in respect of fat [80.4 g. compared with 64.9 (premature) and 61.9 (stillbirth)], protein [72.1 g. compared with 54.5 (premature) and 52.4 (stillbirth)], especially animal protein [45.9 g. compared with 29.9 (premature) and 27.4 (stillbirth)]. They were also superior in total calorie intake, calcium and iron. Special dietary advice, and encouragement to make use of the supplements available at that time for expectant mothers, resulted in lowering of the premature birth incidence and that of the stillbirth rate.

Studies of the effects of food deprivation during the war lend support to the above findings,[1, 15, 16] but war-time food shortage is associated with deprivation of so much else that it is difficult to isolate the dietary factor from other factors in their effect on pregnancy.

Despite the conflicting evidence of others,[13, 17, 20] it is submitted that improved maternal nutrition would result in a considerable reduction in premature births, and in the associated high stillbirth and neonatal mortality rates of Durban's babies. While a rise in general economic and educational standards is the obvious answer to this problem, it is submitted that those responsible for care of expectant mothers can do much to reduce the needless waste of foetal and infant life by the inclusion of a nutrition programme in their antenatal work.

Local evidence to this effect is provided by an evaluation of the progress made in communities included in the service of our Institute of Family and Community Health. Antenatal care is an integral part of the family practice carried out by the Institute, which includes medical and nursing care as well as health education by specially trained health educators.[10, 11] A nutritional appraisal of each case, including clinical examination and diet history, is part of the examination, and special attention is directed towards nutrition in the advice given. Advice is supported by the use of supplementary foods, the most necessary being a high protein food, for which purpose we use dried skim milk, together with other supplements, e.g. vitaminized oil, occasionally other vitamins and, in the case of many Indian mothers, iron.

The mortality rates for several communities thus served in Durban are compared in Table IV with the Durban figures as a whole, for the period 1950-54:

TABLE IV: LATE FOETAL AND EARLY INFANT MORTALITY IN THREE DURBAN COMMUNITIES SERVED BY THE INSTITUTE OF FAMILY AND COMMUNITY HEALTH

	African		*Indian*		
	Lamontville	*Durban*	*Merebank*	*Springfield*	*Durban*
Stillbirth Rate	28·57	58·29	38·46	24·42	39·70
Neonatal Mortality Rate	35·13	107·60	16·67	18·77	31·83

There are no doubt factors other than the service provided which might account for these differences. However, evidence is accumulating to the effect that they are mainly due to the kind of service provided. Thus, Kark and Cassel[10] in their study of the response to this type of service of the very poor rural African community of Polela, were able to demonstrate that the major change in infant mortality was related to the health educational aspect of the service.

A further important consideration affecting the relatively favourable Lamontville figures is that Lamontville is a well built municipal project, housing an African community of a comparatively high standard of school education. It might therefore be expected that their stillbirth and neonatal mortality rates would be lower than that of Africans of Durban as a whole, the more especially when one considers slum areas like Cato Manor. That the difference is not only due to this disparity in basic amenities, such as housing, is indicated by the profound change in the stillbirth rate that we have been able to record in the Polela community over the past 15 years. During the period 1942-44, when we were first able to record stillbirths accurately, the stillbirth rate per 1,000 total births was 52.34, a figure very similar to that of Durban in the period 1950-54 (58.29). In contrast to this early figure, the stillbirth rate during the 5-year period 1950-54 was 26.61. It should be noted that this latter Polela figure is slightly below that of Lamontville, and that it has occurred in a community whose standard of living is well below that of Lamontville.

It is true that the anti-syphilitic programme at the Polela Health Centre was probably a most important influence in lowering the still-

birth rate in this community. The following figures of the changing incidence of syphilis and of the stillbirth rates of syphilitic and non-syphilitic expectant mothers are of significance:

1. While in 1943 the annual rate of new infections per 1,000 women aged 15-45, was 32.7, in 1951 the corresponding figure was 12.7.

2. Comparing the incidence of stillbirths of syphilitic and non-syphilitic mothers attending the Health Centre in the years 1949-51, Dr. Cassel reported as follows in Table V:

TABLE V

	Percentage of Total Births which were Stillbirths	
	of Non-Syphilitic Mothers	*of Syphilitic Mothers*
1949	7.4	15.0
1950	3.9	10.3
1951	2.6	5.2

It will be noted that the relative difference in the occurrence of stillbirths in the two groups of women did not alter. Both showed a considerable decline in the 3-year period. This indicates that the reduction in the syphilitic group was not solely due to anti-syphilitic treatment, and also that with further reduction in the occurrence of syphilis in the community a lowering in the overall stillbirth rate can be expected if the maternity services of that Centre continue to emphasize the nutritional state and general health of the mother.

A particularly significant difference between Indian communities served by the Institute and those of Durban as a whole emerges in the analysis of the neonatal mortality rates of the Merebank and Springfield Indian communities. While the Durban figure of 31.83 is, as has been stated, unexpectedly low, bearing in mind the dire poverty of the vast majority of Indians living in Durban, the rates for Merebank (16.67) and Springfield (18.77) are comparable with those of the Europeans of Durban (18.76), whose standards of living in almost all respects are vastly superior.

We are now following these studies through to assess whether there has been any significant change in foetal growth (as judged by birth weight) and in growth and survival during infancy and childhood. Preliminary impressions of the data encourage the belief that this is so. It seems probable that the encouraging response in foetal and neonatal survival in the communities concerned, is related to a lowering in the incidence of prematurity.

CONCLUSION

The high incidence of prematurity in Durban communities, associated with high stillbirth and neonatal mortality rates, is largely preventable, not only by the more general economic improvement that is needed, but also to a large extent by medical care.

This is so among the African section, where the waste of life is so great, as well as among the other sections of the community.

Improved maternal nutrition is probably one of the most significant contributions that can be made towards the prevention of prematurity in this country.

The judicious use of food supplements depending upon clinical nutritional findings, associated with intensive health education directed towards the individual, the family and, where possible, the community as a whole, has had most encouraging results. This is so even when the nutritional state of the mother is very poor when she first attends during pregnancy, as is the case with so many African and Indian mothers of Durban.

Williams,[19] in reviewing the needs of services in newly developing countries, makes the following apt remarks:

'Maternity services at present are too much concentrated on affording skilled assistance at the delivery. So much is done inside institutions, and so little outside them that midwives are often trained with little attention to nutrition, and general care of the mother and child. . . . The mother often is suffering from early marriage, repeated pregnancies, malnutrition and over physical work during pregnancy. Merely to enter an institution for a few days for confinement will do little to counteract these perils.'

OPSOMMING

Die groot aantal geboortes voor die tyd in Durbanse gemeenskappe en die daarmee in verband staande hoë voorkoms van doodgeboortes en die groot neogeboortelike sterftesyfer kan in 'n aansienlike mate voorkom word nie alleen deur die meer algemene ekonomiese verbeterings wat nodig is nie, maar ook deur mediese versorging.

Dit is die geval sowel onder die naturelle-seksie waar die lewensverkwisting groot is, as onder ander seksies van die gemeenskap.

Die verbeterde voeding van verwagtende moeders is waarskynlik een van die belangrikste bydraes wat gedoen kan word tot die voorkoming van doodgeboortes in hierdie land.

Die oordeelkundige gebruik van voedseltoevoegsels na gelang van die kliniese voedingsbevindings, gepaard met intensiewe gesondheidsopvoeding toegespits op die individu, die gesin en, waar moontlik, ook die gemeenskap as 'n geheel, het besonder bemoedigende resultate opgelewer. Dit was die geval selfs waar die voedingstoestand van die moeder uiters gebrekkig was toe sy haar vir die eerste keer tydens swangerskap vir behandeling aangemeld het, soos so dikwels met talle naturelle- en Indiërmoeders in Durban gebeur.

REFERENCES

1. Antonov, A. N. (1947): J. Pediat., **30**, 250.
2. Balfour, M. I. (1944): Proc. Nutrit. Soc., **2**, 27.
3. Baumgartner, L. (1950): N.Y. State J. Med., **50**, 289.
4. Burke, B. S., Beal, V. A., Kirkwood, S. S. and Stuart, H. C. (1943): Amer. J. Obstet. Gynecol., **46**, 38.
5. Burke, B. S., Harding, V. V. and Stuart, H. C. (1943): J. Pediat., **23**, 506.
6. Ebbs, J. H., Tisdall, F. F. and Scott, W. A. (1941): J. Nutrit., **22**, 515.
7. Graham, S. G. (1944): Proc. Nutrit. Soc., **2**, 65.
8. Heyns, O. S. and Hersch, S. S. (1944): S. Afr. J. Med. Sci., **9**, 33.
9. Jelliffe, D. B. (1952): Trans. Roy. Soc. Trop. Med. Hyg., **46**, 13.
10. Kark, S. L. and Cassel, J. (1952): S. Afr. Med. J., **26**, 101, 132.
11. Kark, S. L. and Steuart, G. W. (1956): Health Educ. J. In the press.
12. Kark, S. L. and Chesler, J. (1956): S. A. J. Lab. Clin. Med., **2**, 134.
13. McGanity, W. J. *et al.* (1954): Amer. J. Obstet. Gynecol., **67**, 501.
14. Salber, E. J. and Bradshaw, E. S. (1951): Brit. J. Soc. Med., **5**, 113.
15. Smith, C. A. (1947): J. Pediat., **30**, 229.
16. Smith, C. A. (1947): Amer. J. Obstet. Gynecol., **53**, 599.
17. Sontag, I. W. and Wines, J. (1947): Amer. J. Obstet. Gynecol., **54**, 994.
18. Walker, A. H. C. (1950): *Quoted by* Jelliffe, D. B. (1952).
19. Williams, C. (1955): J. Trop. Pediat., **1**, 3.
20. Williams, P. F. and Fralin, F. G. (1942): Amer. J. Obstet. Gynecol., **43**, 1.
21. Whitbourne, D. (1930): W. Afr. Med. J., **4**, 3. *Quoted by* Jelliffe.[9]
22. Platel, G. and Vandergoten, Y. (1940): Ann. Soc. Belge Méd. Trop., **20**, 297. *Quoted by* Jelliffe.[9]
23. Platt, B. S. (1947): *Quoted by* Jelliffe.[9]

DISLOCATION OF THE HEAD OF THE FIBULA

L. H. MULLER, M.B., CH.B.

Department of Orthopaedics, Pretoria General Hospital, Pretoria

The first case of isolated traumatic dislocation of the head of the fibula was described by Malgaigne in 1850.[5] Lyle in 1925 collected 39 cases from the literature and added two of his own.[8] Since then about 14 more have been described by various authors. The condition occurs more commonly in association with underlying pathology, such as complicated fractures of the upper end of the tibia and fibula, fractures at a lower level in the tibia, osteomyelitis,[12] tumours, in amputation stumps and in disturbances of bone growth.

The scant reference which is made to this subject in the world literature has encouraged the author to submit this review, and to add two cases of his own.

TYPES OF DISLOCATION

Four types of dislocation are recognized, viz.

1. Anterior or forward dislocation.
2. Posterior or backward dislocation.
3. Upward or proximal dislocation.
4. Double dislocation of the tibio-fibular joint.

1. *Forward Dislocation.* This type of dislocation occurs about twice as frequently as does the posterior. The head of the fibula is situated behind the most prominent part of the condyle of the tibia, and as the fibular facet is directed downwards, backwards and laterally, a forward dislocation must also be outward.

Several theories have been advanced to explain the mechanism of the dislocation.

1. A fall with the leg doubled under the body.[8, 9, 12]

2. Forcible depression and inversion of the front of the foot.[2, 4, 13]

3. Overcontraction of the extensor muscles arising from the side of the fibula, the head being drawn forwards by their forcible contraction.[6, 9]

4. A direct blow on the head of the fibula.[9, 15]

5. A twisting lateral fall at the time of striking the ground during parachute jumps. In assuming the parachute-landing position, paratroopers are taught to flex their legs and keep their feet together. In this manner, the fibular collateral ligament and the biceps femoris are in a relaxed state. As sharp inversion of the ankle causes tension of the peroneal muscles, and a lateral twisting motion of the trunk is transmitted to the tibia, the fibula is free to dislocate anteriorly.[15]

6. A very unusual twisting leverage force applied somewhere to the leg below the joint, or to the foot.[14]

Clinical Picture. Pain which is localized to the region of the head of the fibula occurs immediately, and is aggravated by motion of the knee joint. The patient may not be able to walk, but active movements of the knee are possible. A sharp pain high up on the fibula produced by everting the foot is considered by Cotton to be a pathognomonic sign.

The knee is usually extended and the foot adducted, but sometimes the leg feels most comfortable with the knee slightly flexed. The biceps stands out as a tense curved cord with the concavity forwards.[3] The head of the fibula can be seen and felt to be displaced, and is

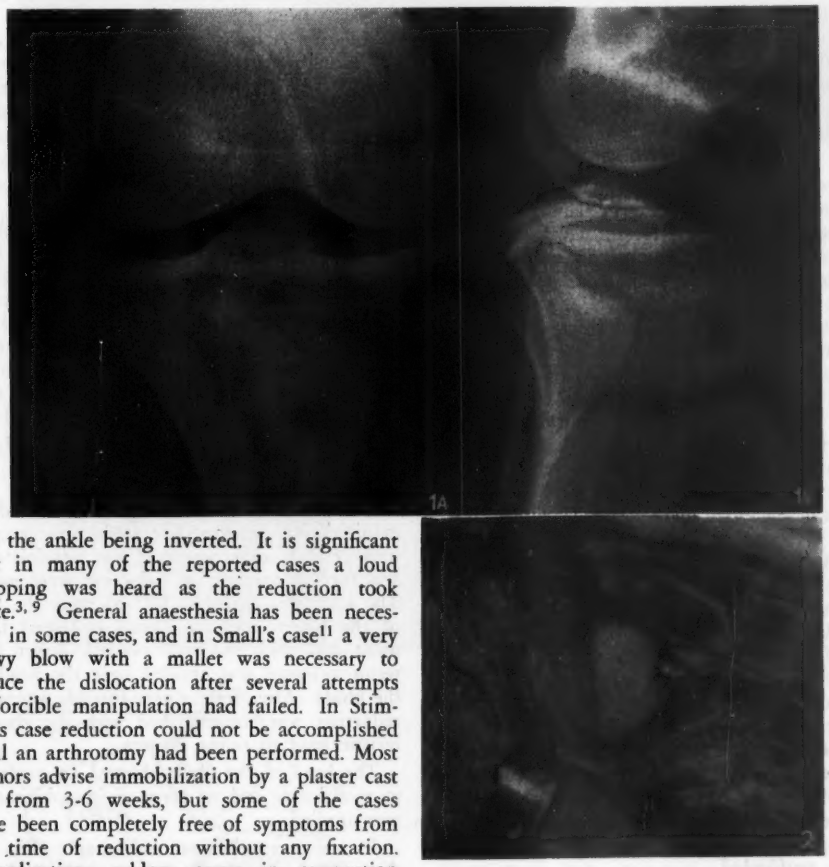
tender on pressure. Some cases are associated with inversion ankle sprains of varying degree. According to Lyle, abnormal mobility at the superior tibio-fibular joint is present in 20% of the cases; slight mobility in 60%, and no mobility in 20%. Antero-posterior and lateral roentgenograms show the dislocation quite clearly, but the diagnosis may be readily overlooked if the condition is not kept in mind.

Several cases of spontaneous reduction have been described.[7, 8] Most of the remainder were easily reduced by direct pressure, the knee being flexed to relax the pull of the biceps, and the ankle being inverted. It is significant that in many of the reported cases a loud snapping was heard as the reduction took place.[3, 9] General anaesthesia has been necessary in some cases, and in Small's case[11] a very heavy blow with a mallet was necessary to reduce the dislocation after several attempts at forcible manipulation had failed. In Stimson's case reduction could not be accomplished until an arthrotomy had been performed. Most authors advise immobilization by a plaster cast for from 3-6 weeks, but some of the cases have been completely free of symptoms from the time of reduction without any fixation. Complications seldom occur in connextion with the forward type of dislocation.

2. *Backward Dislocation.* This type of dislocation occurs less frequently, but is more serious as peroneal nerve injury may occur and the dislocation may recur and become chronic.

A few cases are caused by the forcible contracture of the biceps, others by direct external violence, whilst the majority follow a fall. The leg is probably twisted, the superior tibio-fibular ligaments ruptured and the loosened head of the fibula drawn backwards by the biceps. In the posterior dislocations the leg is held in a flexed position and the biceps tendon is tense and vertical.

The reduction is usually easily accomplished, but may be difficult to retain. In this event a weakness develops occasionally when the biceps is brought into strong action, and an accompanying recurrent local synovitis or an associated synovitis of the knee may give rise to considerable weakness and fatigue in walking. Operative methods of fixation have been described in these cases. The head of the fibula may be pegged or sutured to the tibia, or



formally fused by means of a proximal tibio-fibular arthrodesis.

3. *Proximal Dislocation.* This displacement is caused by an upward thrust of the fibula and is associated with an outward dislocation of the ankle, and fractures at a lower level in the tibia.[12]

4. *Double Dislocations.* Five cases have been described in which there was dislocation at both the proximal and distal tibio-fibular joints. Four of these displayed proximal dislocation of the entire fibula relative to the tibia, whilst in the fifth case the fibular head was dislocated forward and the lateral malleolus backward.

Schoolfield[10] described an interesting case of bilateral relaxation of the superior tibio-fibular articulation in which an arthrodesis on the right side resulted in complete relief of pain.

CASE REPORTS

Case 1. The patient, a male aged 19, was doing gymnastics when he landed, with his knees flexed and his feet in a valgus position, on a hard floor. He immediately felt a pain over the lateral aspect of his knee joint and was unable to walk.

Examination on the following day revealed that the fibular head was protruding anteriorly. The knee was held in a slightly flexed position, and knee movements as well as pressure over the head of the fibula were painful. There was no sign of involvement of the ligaments or of effusion in the knee joint, and there was no involvement of the peroneal nerve. Examination of the ankle revealed slight pain on forceful inversion.

A diagnosis of forward dislocation of the head of the fibula was made and this was confirmed radiographically (Figs. 1A, 1B).

Radiographs of the tibia and fibula showed no fractures, and radiographs of the ankle joint in forced eversion and inversion revealed no dislocation, torn ligaments or diastasis of the inferior tibio-fibular articulation.

Several attempts were made to reduce the dislocation by direct posterior pressure over the proximal end of the fibula with the knee flexed and the foot inverted. These proved unsuccessful, and an open reduction was therefore performed.

The joint capsule was found to be torn, but there was no soft tissue interposition which could in any way obstruct reduction. An attempt was then made to reduce the dislocation by pressing backwards on the head of the fibula, but this was unsuccessful.

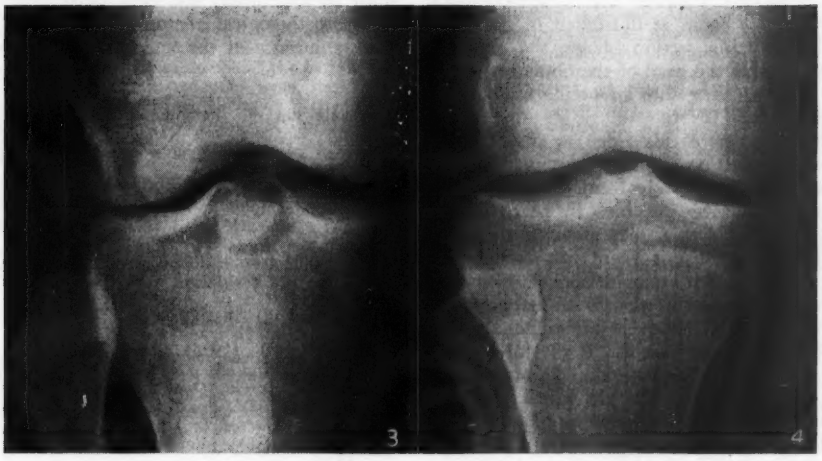
Closer inspection disclosed that the posterior sharp edge of the head of the fibula was resting on a ridge of bone just anterior to the fibular facet of the tibia. By pulling the fibula upwards and then laterally past this ridge, the dislocation was reduced, and showed no tendency to recur. In Fig. 2 the dislocated head of the fibula and the fibular facet of the tibia are demonstrated, with the tip of the forceps (top left corner) in the position of the ridge.

The wound was closed in layers and a posterior plaster slab was applied for 2 weeks. There has been no re-dislocation and the patient has been free of symptoms since recovery from the operation.

Case 2. A male, aged 21, was tackled during a rugby match, and immediately afterwards felt a severe pain in the region of his right knee joint. He could not walk, and had to be carried off the field. As the accident occurred in the heat of the game, he could not remember the exact mechanism of the injury. He was seen on the same day, and examination showed that the head of the fibula was dislocated anteriorly. The knee was held in a flexed position and although extension was impossible, further flexion caused no pain. The lateral collateral ligament of the knee joint as well as the biceps tendon formed two prominent bands which could be seen as well as palpated. Forced eversion of the foot caused a sharp pain over the head of the fibula. There was no peroneal nerve involvement, no effusion in the knee joint, no injury to the ankle joint or abnormal mobility of the superior tibio-fibular joint. When immediate manipulative attempts at reduction proved unsuccessful, an anaesthetic was administered and further attempts at reduction were made. The knee was flexed to 90° to relax the pull of the biceps and the lateral collateral ligament and, with the foot everted, direct posterior pressure was applied over the head of the fibula. After several very forcible attempts, reduction was accomplished with the characteristic loud snapping noise.

The head of the fibula showed no tendency to re-dislocate and no form of immobilization was applied.

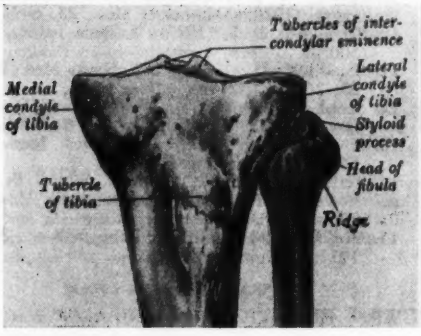
In the pre-reduction radiograph (Fig. 3) there is an apparent lateral narrowing of the joint space. This is probably caused by the tension of the lateral collateral ligament pulling the leg into a valgus position, thus actually widening the joint space on the medial side. The lateral ligament remained abnormally tense even when the leg was further

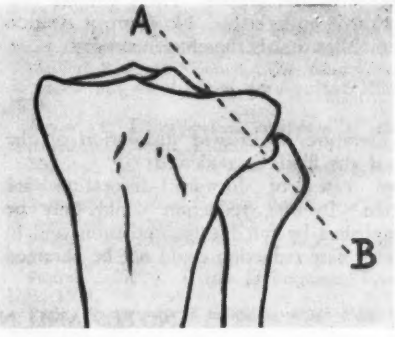


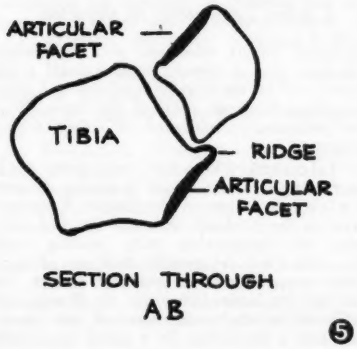
flexed. The post-reduction radiograph (Fig. 4) shows the head of the fibula in its normal relation to the tibia, and the apparent narrowing of the joint space on the lateral side has disappeared.

DISCUSSION

In the literature only one case of forward dislocation of the fibular head, in which reduction could not be accomplished without an explora-







5

tory arthrotomy, is mentioned.

If it is kept in mind that the fibular facet of the tibia is directed downwards, backwards and laterally, it is clear that some mechanical factor must exist to hold the head of the fibula in the dislocated position.

The ridge of bone lying just anterior to the fibular facet of the tibia is clearly demonstrated in Fig. 5. An examination of several tibiae showed that this ridge is not always present, and occasionally the upper end of the fibula does not reach the facet of the tibia.

A specimen in which this ridge was present was dissected. The fibular head was placed in

the dislocated position and a section made through two bones as illustrated in Fig. 5. A tracing of this section shows the posterior sharp edge of the head of the fibula resting on the ridge of bone anterior to the fibular facet of the tibia.

In cases where this ridge is absent, spontaneous reduction probably occurs; if it is present, but not well formed, manipulative reduction may be possible. In nearly all the cases reported special mention is made of the loud snapping that is heard just as reduction takes place, and it seems reasonable to assume that this is caused by the fibula snapping into its normal position over this ridge of bone. This happened in Case 2. If the force which was necessary to reduce the dislocation and the grating sensation with which reduction took place is taken into consideration, it is probable that a small portion of the ridge may have been fractured during the reduction.

In Case 1 the ridge was so well formed that manipulation only drove the fibula more firmly against the ridge. In such an event reduction can only be accomplished by arthrotomy, and the head of the fibula must be lifted over the ridge. Once reduction has been accomplished, the plane of the articular facets ensures that reduction is quite stable. No form of fixation or immobilization is therefore necessary.

SUMMARY

The literature of isolated dislocation of the head of the fibula is reviewed.

Two cases of forward dislocation are reported. In one, reduction could only be accomplished by forcible manipulation, and in the other case reduction could not be obtained until an arthrotomy had been performed.

The pathological anatomy is described and the significance of the findings is discussed.

OPSOMMING

'n Oorsig van die literatuur in verband met ontwrigting van die kop van die kuitbeen word bespreek. Twee gevalle van voorwaartse ontwrigting word beskryf.

Die een geval kon alleenlik reduseer word deur kragdadige manipulasie, en in die ander geval moes die gewrig blootgelê word voordat die ontwrigting kon reduseer word.

Die patologiese anatomie word beskryf, en die belang van die bevindings word bespreek.

REFERENCES

1. Cotton, F. J. (1924): *Dislocations and Joint Fractures*, 2nd ed., p. 174. Philadelphia: W. B. Saunders & Co. *Quoted by* Lyle.[8]
2. Emmert (1867): Pract. Handbuch der Chir., **4**, p. 400. *Quoted by* Lyle.[8]
3. Gaudlitz (1936): München Med. Wchnschr., **83**, 1589.
4. Hirschberg, K. (1888): Arch. f. Klin. Chir., **37**, 199. *Quoted by* Lyle.[8]
5. Imhauser, G. (1936): München Med. Wchnschr., **83**, 1383.
6. Klose (1913): Deut. Militarztt. Zeitschr., **42**, 911. *Quoted by* Lyle.[8]
7. Lempriere, L. R. (1928): Brit. Med. J., **2**, 1136.
8. Lyle, Henry H. M. (1925): Ann. Surg., **82**, 635.
9. Macklin, W. E., Hartmann, C. M. and Peterson, H. O. (1940): Minnesota Med., **23**, 649.
10. Schoolfield, B. L. (1927): J. Bone Jt. Surg., **9**, 500.
11. Small, W. D. (1935): U.S. Naval Med. Bull., **33**, 264.
12. Speed, Kellogg (1935): *Fractures and Dislocations*, p. 905. Philadelphia: Lea and Febiger.
13. Stimson, L. A. (1889): N.Y. Med. Jour., **49**, 561. *Quoted by* Lyle.[8]
14. Terhune, Samuel R., Thomson, Samuel B. and Eddleman, Thomas S. (1943): South Med. J., **36**, 271.
15. Vitt, Robert J. (1948): J. Bone Jt. Surg., **30**-A, 1012.

NOTES AND NEWS · BERIGTE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

MEDICAL GRADUATES ASSOCIATION

PROPOSED POST-GRADUATE REFRESHER COURSE IN GYNAECOLOGY AND OBSTETRICS

It is proposed to organize a post-graduate refresher course in gynaecology and obstetrics to take place over the week-end commencing 23 August. Would those interested in participating in this course please contact the Secretary, Medical Graduates Association, Medical School, Johannesburg, Telephone 44-7040 (9 a.m.—12.30 p.m.).

Please state whether you would like the Friday included in the week-end course.

The fee for the course will be £4 4s.

COLOUR TELEVISION IN MEDICINE

Closed-circuit colour television is a comparatively new medium that is already proving itself a potent instrument in the teaching of medicine and surgery. New teaching hospitals overseas are being designed for the permanent installation of colour television equipment.

SKF Laboratories (Pty.) Ltd. have made available a colour television unit which is giving demonstrations at various centres in the United Kingdom, as a service to the medical profession in that country. Working in conjunction with leading medical societies, the Unit is showing telecasts of surgical and other procedures to audiences of doctors. These telecasts are immediate (they are not films); each is accompanied by the commentary of the operating surgeon and a discussion by a panel appointed by

the Society under whose aegis the demonstration is given.

Medical colour telecasts were a feature of the Annual Scientific Meeting of the British Medical Association held at Newcastle-upon-Tyne in July this year. The telecasts were made from the Royal Victoria Infirmary to Kings College.

The telecasts were also a feature of the Harveian Tercentenary Commemoration and meetings of the Royal College of Surgeons of England. At both these meetings the telecasts were made from St. Bartholomew's Hospital to the Great Hall of the Royal College of Surgeons of England, Lincoln's Inn Fields, London.

South African medical practitioners interested in medical colour telecasts can obtain further information from SKF Laboratories (Pty.) Ltd., P.O. Box 784, Port Elizabeth.

• • •

Dr. L. J. A. Loewenthal, of Johannesburg, left on 1 July for a visit overseas. He will attend clinics at Zurich, Munich, Frankfurt, Amsterdam and Vienna as well as the annual meeting of the British Association of Dermatology in London on 25 July and the Eleventh International Congress of Dermatology in Stockholm on 31 July. Dr. Loewenthal expects to be back in Johannesburg by mid-August.

• • •

ARTS, CRAFTS AND HOBBIES (DURBAN MEDICAL CONGRESS)

Dr. Morris J. Cohen, Convener of the Arts, Crafts and Hobbies Section of the Medical Congress in Durban this year, urges all entrants for this Section to return the special form sent with the last Congress Circular. This will facilitate the publication of the catalogue for the Section. The catalogue will embody novel features.

The exhibition will be open to the public during the whole period of Congress.

The information required should be sent not later than 31 July.

• • •

WITWATERSRAND MEDICAL LIBRARY

Members of the South African Medical Association who use the facilities of the Witwatersrand Medical Library are invited to send in details of books which they would like the Library to acquire.

BOOKS RECENTLY RECEIVED

Anderson, W. A. D. *Synopsis of pathology.* 4 ed. London: Kimpton, 1957.

Association for Research in Nervous and Mental Disease. *Neurologic and psychiatric aspects of the disorders of aging.* Baltimore: Williams & Wilkins, 1956.

Blount, J. P. *Fractures in children.* Baltimore: Williams & Wilkins, 1954.

Bunnell, S. *Surgery of the hand.* 3 ed. London: Pitman, 1956.

Ciba Foundation. *Colloquia on endocrinology.* Volume 10. London: Churchill, 1957.

Ciba Foundation. *Symposium on the chemistry and biology of purines.* London: Churchill, 1957.

Critchley, M. *Parietal lobes.* London: Arnold, 1953.

Dobzhansky, T. *Evolution, genetics and man.* New York: Wiley, 1955.

Forrester, G. C. *Use of chemical tests for alcohol in traffic law enforcement.* Springfield: Thomas, 1950.

Galloway, R. W. *Anatomy and physiology of physical training.* London: Arnold, 1937.

Handfield-Jones, R. M. *Essentials of modern surgery.* 5 ed. Edinburgh: Livingstone, 1957.

Hewer, C. L. *Recent advances in anaesthesia and analgesia.* 8 ed. London: Churchill, 1957.

Hewitt, R. M. *Physician-writer's book.* Philadelphia: Saunders, 1957.

Holt, L. E. *Pediatrics.* 12 ed. New York: Appleton-Crofts, 1953.

Huxley, J. *Evolution in action.* London: Chatto, 1953.

International Poliomyelitis Congress. *Poliomyelitis: papers and discussions presented at the third International Poliomyelitis Conference.* Philadelphia: Lippincott, 1955.

Jonas, G. *Handbook on horticultural therapy.* Hastings, Mich.: Ptd. by Hastings Banner, 1955.

Jones, F. W. *Trends of life.* London: Arnold, 1953.

Kahler, E. *Man the measure.* New York: Braziller, 1956.

Klatsky, M. *Human masticatory apparatus.* New York: Dental Items of Interest, 1953.

Koppers, W. *Primitive man and his world picture.* London: Sheed & Ward, 1952.

Kunst, J. *Ethno-musicology.* 2 ed. The Hague: Nijhoff, 1955.

Lawton, E. B. *A.D.L.: activities of daily living.* New York: Institute of Physical Medicine and Rehabilitation, 1956.

Lipman, B. S. *Clinical unipolar electrocardiography.* 3 ed. Chicago: Yearbook publishers, 1956.

Luisada, A. A. *Cardiac pressures and pulses.* New York: Grune & Stratton, 1956.

McDowall, R. J. S. *Control of circulation of the blood.* New ed. London: Dawson, 1956. 2 v.

Medical Research Council. *The hazards to man of nuclear and allied radiations.* London: H.M.S.O., 1956.

Moore, F. D. *Metabolic response to surgery.* Springfield: Thomas, 1952.

Munrow, A. D. *Pure and applied gymnastics.* London: Arnold, 1955.

Newcastle Regional Hospital Board. *Use of colour in hospitals.* Newcastle, 1955.

Pfeiffer, J. *Human brain.* London: Gollancz, 1955.

Pumphrey, R. J. *Origin of language.* Liverpool U.P., 1951.

Radin, P. *World of primitive man.* New York: Schumann, 1953.

Riley, C. M. *Living with a child with familial dysautonomia.* New York: Dysautonomia Association, 1956.

Rogers, C. R. *Psychotherapy and personality change.* Chicago: University of Chicago Press, 1954

Simpson, G. G. *Meaning of evolution.* London: Oxford U.P., 1950.

Skinner, B. F. *Science and human behaviour.* New York: Macmillan, 1953.

Smith, H. W. *Principles of renal physiology.* New York: Oxford U.P., 1956.

Smout, C. F. V. *Gynaecological and obstetrical anatomy and functional histology.* 3 ed. London: Arnold, 1953.

Waart, A. de. *Het levenswerk van Willem Einthoven.* Haarlem: Nederlandsch Tijdschrift voor Geneeskunde, 1957.

Whitla, W. *Dictionary of medical treatment.* 9 ed. London: Baillière.

PREPARATIONS AND APPLIANCES

SKOPYL

A POWERFUL SPASMOLYTIC WITHOUT CENTRAL DEPRESSANT ACTION

Skopyl is a quaternary ammonium compound. It differs from scopolamine in that the nitrogen atom has been methylated (quaternization). The peripheral anticholinergic effect is potentiated, and the central *inhibitory action, typical of scopolamine, is removed.* This is of fundamental importance in its therapeutic use as an antispasmodic.

The main effect of *Skopyl* is entirely peripheral, and is due to inactivation of acetyl choline. The spasmolytic effect on guinea-pig intestine of *Skopyl* is 5 times greater than that of scopolamine, and 3 times that of methyl atropine nitrate; it can thus be included among the most powerful spasmolytics known. *Skopyl* has a particularly depressant effect on the tone and motility of the smooth muscle of the gastrointestinal tract, and it inhibits secretion in glands innervated by cholinergic fibres, e.g. glands of the gastric mucosa, sweat glands and salivary glands.

Skopyl has a more marked heart-vagus effect than atropine, and the same mydriatic effect as scopolamine. Like atropine, but in contrast to scopolamine, *Skopyl* stimulates the central nervous system. In therapeutic doses the stimulant effect is only very slight, and for this reason the powerful peripheral action can be utilized in clinical practice. In the case of scopolamine the reverse is true, the value of this drug lying almost entirely in its powerful central depressant action.

Therapeutics: *Skopyl* has been in clinical use for about 10 years. It is especially valuable in all conditions where spasmolysis and inhibition of secretion is desirable. Side effects are rare, and usually very slight, even when large doses are used.

Its action on the vagus may produce tachycardia, but this effect is rare when the drug is given orally, and no cardiac complications have been reported. Signs of central excitation may occasionally be seen in particularly sensitive subjects, but these are always easily counteracted by small doses of a barbiturate.

Skopyl brand methyl scopolamine nitrate is available in the following forms:

Skopyl tablets, each tablet containing 0.5 mg. of methyl scopolamine nitrate.

Skopyl Mite tablets, each tablet containing 0.1 mg. of methyl scopolamine nitrate.

Skopyl Solution, 1 ml. (40 drops) containing 2.5 mg. of methyl scopolamine nitrate. (1 drop = 0.06 mg. methyl scopolamine nitrate).

Skopyl Mite Tablets and *Skopyl* Solution are primarily intended for use in pediatrics. The solution has proved the better form, due to the prompt and efficient absorption from sublingual administration.

Indications: *In Children.* Hypertrophic pyloric stenosis; infantile dyspepsia; pertussis.

In Adults. Peptic ulcer; spastic colon; renal and biliary colic; night sweats; hyperhidrosis; hyperemesis gravidarum.

Dosage: One 0.5-mg. tablet 3-4 times per day is usually sufficient in all of the above conditions. Half of this dose will, however, often be sufficient although isolated cases may require up to twice as much.

Packaging: Available in tablets of 0.5 mg. and 0.1 mg. in bottles of 100 and 500 and drop solution of 2.5 mg. per ml. in bottles of 5 ml.

South African Distributors: Protea Pharmaceuticals Limited, P.O. Box 7793, Johannesburg.

ENEMOL DISPOSABLE ENEMA UNIT

Just a turn of the valve cap on this Cutter disposable enema unit allows critical adjustment from closed to desired rate of flow. All awkwardness of control during insertion is eliminated. This Cutter exclusive valve design even permits the clearing of air from the rectal tube prior to insertion.

Clinical tests produced a 6-inch rectal tube sufficiently stiff for ease of insertion yet smooth and pliant to the patient. Possible damage to the mucosa is prevented by the soft round tip.

Clinical studies show that for routine enemas, the time-proved phosphate solutions are superior for both cleansing effects as well as cost of administering.

Packed in easy-to-handle 24 to a case, 4½ oz. units.

South African Distributors: Protea Pharmaceuticals Ltd., P.O. Box 7793, Johannesburg.

CITRADEX MULTI-VITAMIN SYRUP

Description: *Citradex* is a presentation of 7 vitamins in a pleasant orange-flavoured syrup.

Composition: Each large teaspoon (5 c.c.) contains:

Vitamin A	3,000 units
Vitamin B_1	1.5 mg.
Riboflavine	1.2 mg.
Nicotinamide	10 mg.
Vitamin B_{12}	2.5 μg.
Vitamin C	40 mg.
Vitamin D	500 units

Indications: As a reinforcement of vitamin intake; before operation and during convalescence; peptic ulcer, obesity and such other disorders where dietary restrictions may lead to deficiencies of several factors; pregnancy and lactation; malnutrition.

Dosage: *Young Children*: Six months to 2 years: ½-½ teaspoonful 3 times a day.

Older Children: 1-2 teaspoonfuls 3 times a day.

Adults: 2 or more teaspoonfuls 3 times a day.

Pack: 6-oz. bottles.

Manufactured in South Africa by Glaxo Laboratories (S.A.) (Pty.) Ltd., P.O. Box 21, Wadeville, Transvaal.

ACHROMYCIN V

A NEW IMPROVED FORM OF A CLINICALLY PROVEN ANTIBIOTIC

Achromycin V combines the well-known antibiotic, tetracycline, with metaphosphate to provide greater and more rapid antibiotic absorption in the intestinal tract. This increased absorption is evidenced by significantly higher blood levels and by an increased rate of urinary excretion of the ingested drug.

The chemical structure of *Achromycin* remains unaltered. However, its tetracycline action is intensified. Chemically conditioned with metaphosphate, *Achromycin V* places a newer, more effective therapeutic agent in the hands of the physician. *Achromycin V* is indicated in all conditions indicated for *Achromycin* Tetracycline. The recommended dose remains the same, 1.0 g. per day for the average adult.

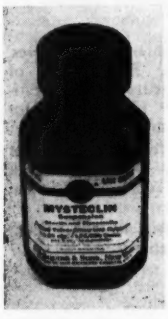
Available: Bottles of 16 and 100 capsules.

Each capsule (pink) contains:	
Tetracycline equivalent to tetracycline HCl	250 mg.
Sodium metaphosphate	380 mg.

MYSTECLIN SUSPENSION

Mysteclin Suspension is a complementary product to *Mysteclin* Capsules and is now available for the treatment of many common infections which respond to tetracycline therapy.

Mysteclin Suspension for oral use is a ready-to-take, fruit-flavoured, corn oil suspension containing two important antibiotics: steclin (Squibb Tetracycline) for broad-spectrum antibacterial therapy, and mycostatin (Squibb Nystatin) for effective antifungal prophylaxis. Each 5 c.c. teaspoonful of the suspension contains the equivalent of 125 mg. of steclin hydrochloride and 125,000 units of mycostatin.



Mysteclin Suspension is available in 60 c.c. (2 oz.) bottles. The preparation is stable for 18 months.

Action. Steclin (Squibb Tetracycline) provides antimicrobial action similar to that of other broad-spectrum antibiotics.

Mycostatin (Squibb Nystatin), the first safe antifungal antibiotic, has pronounced action against *Candida albicans* (Monilia).

Rationale of Use. The combined administration of mycostatin (Squibb Nystatin) and steclin (Squibb Tetracycline), as provided by *Mysteclin*, affords both antimicrobial therapy with a broad-spectrum antibiotic as well as safe and effective prevention of fungal superinfection which may occur as a result of therapy with broad-spectrum antibiotics, especially when such therapy must be intensive or prolonged. This preparation is now available in a dosage form particularly suited to paediatric practice.

Dosage. For infants and children the usual dosage should apply approximately 20 mg. of tetracycline per Kg. body weight each day in divided doses.

The minimum dosage for adults is 1 g. of tetracycline each day in divided doses (e.g. 2 teaspoonful *Mysteclin* Suspension 4 times daily).

Squibb Laboratories (Pty.) Limited, P.O. Box 9975, Johannesburg (*Telephone*: 44-9648).

NEW 'ELASTOPLAST' AIRSTRIP

Smith & Nephew (Pty.) Ltd., of Pinetown, Natal, announce the introduction of a new type of first aid dressing for minor cuts and wounds.

Called *Elastoplast Airstrip*, these adhesive dressings are made from a micro-porous base material which allows wounds to 'breathe' yet keeps them

fully waterproof. Thus, wounds heal faster under ideal conditions, with no maceration no matter how long the derssing is kept on.

Elastoplast Airstrip is available in boxes containing assorted sizes for 1s. 6d. and 3s. and also in professional packs.

Further Information from: Mr. H. S. Buckley, Smith & Nephew (Pty.) Ltd., Gillitts Road, Pinetown, Natal. (*Telephone*: 7-6671, Durban).

METASILIA

ABBOTT'S LAXATIVE EMULSION OF MINERAL OIL AND PSYLLIUM SEED JELLY

Metasilia is an emulsion of 80% mineral oil with psyllium seed jelly. It is delicately and agreeably flavoured.

Uniform Lubrication. The special value of mechanical laxatives with mineral oil as the principal agent in the treatment of chronic intestinal stasis has become well established by wide clinical experience. There are, however, certain objections to plain mineral oil, one being the tendency to leakage and another being the taste which is particularly disagreeable to many individuals. *Metasilia* largely overcomes these two main objections and at the same time provides a non-irritating mechanical laxative with certain advantages.

Psyllium seed jelly, which makes up about 20% of *Metasilia*, is not only a good intestinal lubricant,

but is bland and non-absorbable.

Mineral Oil Content: *Metasilia*, in comparison with 4 much advertised products of somewhat similar character, carries 80% mineral oil as against 65, 50, 40 and 35% in the samples examined. It should be remembered that the chief lubricating effect of these products is from the mineral oil.

The high lubricating value and low leakage tendency of *Metasilia* should give it preference as a mechanical laxative.

Contains no Sugar. Freedom from sugar also makes *Metasilia* well suited for diabetics suffering from chronic intestinal stasis.

Other Advantages. It is an excellent laxative during pregnancy because of its mild action and in constipation with haemorrhoids, where difficulty in passing stools must be avoided.

The consistency of *Metasilia* is that of cream. It is not oily in taste and mixes readily with liquids or solids.

It has a delicate, pleasing flavour of which one will not tire.

Metasilia is devoid of drug action—its action is purely mechanical.

It mixes readily with water or milk and is easy to administer to infants and children.

Dosage. Adults: One tablespoonful once or twice a day.

Children: One teaspoonful one or twice a day.

Packaging: Supplied in 8 oz. wide-mouth bottles.

Sole South African Manufacturers: Abbott Laboratories S.A. (Pty.) Ltd., 223-225 Booysens Road, Johannesburg.

PULVULES PENICILLIN-V PAEDIATRIC, LILLY

TABLETS PENICILLIN-V-SULPHA, LILLY

Following the introduction of *Pulvules Penicillin-V Lilly* 125 mg., this unique, acid-resistant oral penicillin is now also available as *Pulvules Penicillin-V Paediatric Lilly*, each containing 60 mg.

This strength is very suitable for administering penicillin-V to children, the small size of the capsule presenting no difficulty in swallowing. Very young children and infants may be given penicillin-V in the form of *Suspension Penicillin-V Lilly Paediatric*.

Pulvules Penicillin-V Paediatric Lilly are available in bottles of 20 filled capsules.

Also available is the new introduction *Tablets Penicillin-V-Sulpha Lilly*, a combination of penicillin-V with sulphonamides. Each tablet contains *Penicillin-V Lilly* 125 mg. (200,000 units) with a total of 0.5 gm. of sulphonamides (equal quantities each of sulphadiazine, sulphamerazine and sulphadimidine).

Tablets Penicillin-V-Sulpha are indicated particularly in mixed infections such as bronchitis and respiratory diseases, and where the causative organisms are only moderately susceptible to either group of drug.

Tablets Penicillin-V-Sulpha Lilly are available in bottles of 20.

STEMETIL (MAYBAKER)

Stemetil brand 1-[3-(3-chloro-10-phenothiazinyl)-propyl]-4-methyl-piperazine dimaleate is a new phenothiazine derivative closely related to *Largactil*. It resembles *Largactil* in the range of its pharmacological actions, but it shows marked quantitative differences. Thus it is several times more active as an anti-emetic but less active in reducing conditioned and instinctive reflex activity.

Clinical investigations have established that *Stemetil* is of value in the symptomatic management of:

(*a*) Migraine and kindred conditions;
(*b*) Ménière's syndrome and other labyrinthine disorders;
(*c*) Giddiness of other origins;
(*d*) Nausea and vomiting.

In common with other phenothiazine derivatives, *Stemetil* may be useful in the management of psychiatric disorders. This is still being investigated and insufficient evidence is available for definite recommendations to be made.

Stemetil is administered orally or in the form of suppositories. It is supplied as 5 mg. tablets in containers of 25 and 250, and as suppositories in boxes of 5 × 25 mg.

Further Information from: Maybaker (S.A.) (Pty.) Ltd., P. O. Box 1130, Port Elizabeth.

PREPARATE EN TOESTELLE

SKOPYL

'N KRAGTIGE KRAMPWERENDE MIDDEL SONDER 'N SENTRALE DEPRESSIE-EFFEK

Skopyl is 'n kwaternêre ammoniumsamestelling. Dit verskil van skopolamien, want die stikstofatoom is gemetileer (kwaternisasie). Die randstandige anticholinergiese effek word verhoog, en die *sentrale inhibisie-effek wat so tipies van skopolamien is, word uitgeskakel.* Dit is van fundamentele belang waar dit terapeuties as 'n krampbestrydingsmiddel gebruik word.

Die hoofeffek van *Skopyl* is geheel en al randstandig, iets wat toegeskryf moet word aan die on-

aktivering van asetielcholien. *Skopyl* se krampwerende effek op die ingewande van 'n marmotjie is 5 keer groter as dié van skopolamien, en 3 keer groter as dié van metielatropiennitraat; dit neem dus 'n plek in onder die kragtigste krampwerende middels wat vandag bekend is. *Skopyl* het 'n besondere depressie-effek op die spanning en beweeglikheid van die gladde spier van die spysverteringskanaal, en strem afskeiding in kliere wat besenu is deur cholinergiese vesels, bv. kliere van die maagslymvlies, die sweetkliere en die speekselkliere.

Skopyl het 'n opvallender hart-vagus-effek as atropien en dieselfde midriatiekeffek as skopolamien. Net soos atropien, maar in teëstelling met skopolamien, stimuleer *Skopyl* die sentrale senuweestelsel. In terapeutiese dosisse is die stimulerende effek baie gering, en om hierdie rede kan die kragtige randstandige effek in die kliniese praktyk gebruik word. In die geval van skopolamien is die teenoorgestelde die geval. Die waarde van hierdie middel lê byna geheel en al opgesluit in sy kragtige sentrale depressie-effek.

Terapie: Skopyl is reeds ongeveer 10 jaar lank in kliniese gebruik. Dit is veral waardevol in alle toestande waar spasmolise en inhibisie van afskeiding wenslik is. Bykomstige effekte is seldsame verskynsels en gewoonlik gering, selfs wanneer groot dosisse toegedien word.

Die effek daarvan op die vagus kan hartversnelling tot gevolg hê, maar dit is 'n seldsame verskynsel as die middel mondeling toegedien word. Geen hartkomplikasies is tot dusver gerapporteer nie. Tekens van sentrale prikkeling word soms waargeneem by besonder gevoelige pasiënte, maar dit kan maklik teëgewerk word deur klein dosisse barbituraat.

Skopyl, 'n soort metielskopolamiennitraat, is verkrygbaar in die volgende vorms:

Skopyl-tablette, elk bevattende 0.5 mg. metielskopolamiennitraat.

Skopyl-Mite-tablette, elke bevattende 0.1 mg. metielskopolamiennitraat.

Skopyl-oplossing, 1 ml. (40 druppels), bevattende 2.5 mg. metielskopolamiennitraat. (1 druppel = 0.06 mg. metielskopolamiennitraat).

Skopyl-Mite-tablette en *Skopyl*-oplossing is hoofsaaklik bedoel vir gebruik in kindergeneeskunde. Die oplossing het die bewys gelewer dat dit die beste vorm is, hoofsaaklik weens die vinnige en doeltreffende absorpsie volgende op ondertongse toediening.

Indikasies: *By kinders*. Hipertropiese vernouing van die maaguitgang; kinderdispepsie; kinkhoes.

By volwassenes: Peptiese swere; spastiese kolon; nier- en galkoliek; swetery gedurende die nag; hiperhidrose; hyperemesis gravidarum.

Dosis: Een 0.5 mg.-tablet 3-4 maal per dag is gewoonlik voldoende vir al bogenoemde toestande. Die helfte van hierdie dosis sal egter dikwels voldoende wees, hoewel tot twee keer soveel in enkele gevalle nodig mag wees.

Verpakking: Verkrygbaar in tablette van 0.5 mg. en 0.1 mg., in bottels van 100 en 500, en in die vorm van 'n drupoplossing van 2.5 mg. per ml., in bottels van 5 ml.

Suid-Afrikaanse Verspreiders: Protea Pharmaceuticals Limited, Posbus 7793, Johannesburg.

ENEMOL-LAWEMENTEENHEID WAARVAN ONTSLAE GERAAK KAN WORD

'n Draai van die klepdoppie van hierdie Cutter-lawementeenheid waarvan ontslae geraak kan word, is voldoende vir kritieke verstelling vanaf die geslote posisie tot die gewenste toestromingshoeveelheid. Alle kontrole-onhandigheid tydens die insteekproses word uitgeskakel. Hierdie eksklusiewe Cutter-klepontwerp maak dit selfs moontlik om die lug uit die rectumbuis te verwyder voordat die lawement toegedien word.

Ten gevolge van kliniese toetse is 'n rectumbuis van 6 duim geproduseer wat styf genoeg is om die insteek daarvan te vergemaklik, en tog glad en buigbaar is vir sover dit die pasiënt betref. Moontlike beskadiging van die slymvliese word voorkom deur die sagte, ronde punt.

Kliniese studies het bewys dat, vir roetine-lawemente, die bewese fosfaatoplossings beter is wat sowel hul reinigingseffek as die koste van toediening betref.

Verpak in maklik hanteerbare eenhede van 4½ ons —24 in 'n kassie.

Suid-Afrikaanse Verspreiders: Protea Pharmaceuticals Ltd., Posbus 7793, Johannesburg.

CITRADEX-MULTI-VITAMIENSTROOP

Beskrywing: *Citradex* is 'n samestelling van 7 vitamiene in 'n aangename, lemoengegeurde stroop.

Samestelling: Iedere groot teelepel (5 k.s.) bevat:

Vitamien A	3,000 eenhede
Vitamien B_1	1.5 mg.
Riboflavien	1.2 mg.
Nikotinamied	10 mg.
Vitamien B_{12}	2.5 µg.
Vitamien C	40 mg.
Vitamien D	500 eenhede

Indikasies: As 'n versterking van die vitamienopname; voor operasies en tydens herstel; peptiese swere, vetsug en ander dergelike kwale waar dieetkundige beperkings aanleiding kan gee tot 'n tekort aan etlike faktore; tydens swangerskap en melkafskeiding; in gevalle van ondervoeding.

Dosis: *Jong Kinders*: Ses maande tot 2 jaar: ½-½ teelepelvol 3 maal per dag.

Ouer Kinders: 1-2 teelepelsvol 3 maal per dag.

Volwassenes: 2 of meer teelepelsvol 3 maal per dag.

Verpakking: Bottels van 6 ons.

Vervaardig in Suid-Afrika deur Glaxo Laboratories (S.A.) (Pty.) Ltd., Posbus 21, Wadeville, Transvaal.

ACHROMYCIN V

'N NUWE, VERBETERDE VORM VAN 'N KLINIES BEWESE ANTIBIOTICUM

Achromycin V is 'n samestelling van die bekende antibioticum tetrasiklien en metafosfaat, en verseker groter en vinniger antibiotiese absorpsie in die ingewandskanaal. Hierdie verbeterde absorpsie blyk duidelik uit die betekenisvol hoër bloedpeile, en uit die verhoogde urinêre afskeiding van die middel.

Die chemiese struktuur van *Achromycin* bly onveranderd. Desondanks is die tetrasiklien-effek daarvan verskerp. *Achromycin V* wat chemies met metafosfaat gekondisioneer is, plaas dus 'n nuwe en doeltreffender terapeutiese middel in die hande van die geneesheer. *Achromycin V* word aangedui vir alle toestande waarvoor *Achromycin*-tetrasiklien voorgeskryf word. Die aanbevole dosis is dieselfde, 1.0 g. per dag vir die gemiddelde volwassene.

Verkrygbaar: Bottels van 16 en 100 kapsules. Iedere kapsule (ligroos) bevat:

Tetrasiklien gelykstaande aan tetrasiklien-HCl	250 mg.
Natriummetafosfaat	380 mg.

MYSTECLIN-SUSPENSIE

Mysteclin-suspensie, 'n produk wat *Mysteclin*-kapsules aanvul, is tans verkrygbaar vir die behandeling van baie van die gewone infeksies wat op tetrasiklienterapie reageer.

Mysteclin-suspensie vir mondelinge gebruik is 'n klaar voorbereide, vrugte-gegeurde mielie-olie-suspensie wat twee belangrike antibiotica bevat: Steklien (Squibb se tetrasiklien) vir breë - spektrum - antibakterie-terapie, en mikostatien (Squibb se Nystatin) vir doeltreffende swambestrydende profilaksie. Iedere teelepelvol (5 k.s.) van die suspensie bevat die ekwivalent van 125 mg. steklien-hidrochloried en 125,000 eenhede mikostatien.

Mysteclin-suspensie is verkrygbaar in bottels van 60 k.s. (2 ons). Die preparaat bly 18 maande lank stabiel.

Uitwerking. Steklien (Squibb se tetrasiklien) het 'n breë-spektrum-effek soortgelyk aan dié van ander breë-spektrum-antibiotica.

Mikostatien (Squibb se Nystatin), die eerste veilige antibioticum vir die bestryding van swamme, het 'n opvallende effek op *Candida albicans* (Monilia).

Gebruiksaanwysings. Die gesamentlike toediening van mikostatien (Squibb se Nystatin) en steklien (Squibb se tetrasiklien), soos moontlik gemaak deur *Mysteclin*, bied u al die voordele van mikrobebestrydende terapie met 'n breë-spektrum-antibioticum, sowel as 'n veilige en doeltreffende manier vir die voorkoming van die swam-superinfeksie wat kan plaasvind as gevolg van terapie met breë-spektrum-antibiotica, veral as sodanige terapie intensief en van lange duur moet wees. Hierdie preparaat is tans verkrygbaar in 'n dosisvorm wat veral geskik vir kindergeneeskunde is.

Dosis: In die geval van suigelinge en kinders behoort die gewone daaglikse dosis, ongeveer 20 mg. tetrasiklien per kg. liggaamsgewig, in verdeelde dosisse, te verskaf.

Die minimum-dosis vir volwassenes is 1 g. tetrasiklien elke dag in verdeelde dosisse (bv. 2 teelepelsvol *Mysteclin*-suspensie 4 maal per dag).

Squibb Laboratories (Pty.) Limited, Posbus 9975, Johannesburg (*Telefoon*: 44-9648).

NUWE ‚ELASTOPLAST' AIRSTRIP

Smith & Nephew (Pty.) Ltd., van Pinetown, Natal, kondig aan die beskikbaarstelling van 'n nuwe soort Eerste Hulp-verbindsel vir minder belangrike snyplekke en wonde. Hierdie kleefverbindsel word *Elastoplast Airstrip* genoem en word gemaak van 'n mikro-poreuse basiese stof wat die wonde in staat stel om ‚asem te haal' en hulle tog volkome waterdig

hou. Wonde genees dus vinniger in ideale toestande met geen verweking nie—dit maak nie saak hoe lank die verbindsel aanbly nie.

Elastoplast Airstrip is verkrygbaar in dosies wat verskillende groottes bevat teen 1s. 6d. en 3s., asook in professionele pakkies.

Nadere Inligting van: Mnr. H. S. Buckley, Smith & Nephew (Pty.) Ltd., Gillittsweg, Pinetown, Natal. (*Telefoon*: 7-6671, Durban).

METASILIA

ABBOTT SE LAKSERENDE EMULSIE VAN MINERAAL-OLIE EN PSILLIENSAADJELLIE

Metasilia is 'n emulsie van 80% mineraalolie met psilliensaadjellie. Dit is delikaat en aangenaam gegeur.

Eenvormige Gladmaking. Die spesiale waarde van meganiese lakseermiddels (met mineraalolie as hul vernaamste bestanddeel) by die behandeling van chroniese ingewandstase is oor en oor bevestig deur uitgebreide kliniese ondervinding. Daar is egter sekere besware teen gewone mineraalolie. Een is die neiging om te lek, en 'n ander is die smaak wat vir baie mense afstootlik is. In 'n baie groot mate word hierdie twee besware deur *Metasilia* uit

die weg geruim. Terselfdertyd bied dit u 'n nie-prikkelende meganiese lakseermiddel met sekere voordele.

Psilliensaadjellie waaruit *Metasilia* vir ongeveer 20% bestaan, is nie alleen 'n goeie ingewandsmeermiddel nie, maar is ook nie-prikkelend, en word nie geabsorbeer nie.

Mineraalolie-inhoud: In vergelyking met 4 veel geadverteerde produkte van 'n min of meer ooreenstemmende aard, bevat *Metasilia* 80% mineraalolie teenoor 65, 50, 40 en 35% in die monsters wat ondersoek is. Daar moet in gedagte gehou word dat die gladmakende effek van hierdie produkte hoofsaaklik aan hul mineraalolie-inhoud toegeskryf moet word.

Met die oog op sy hoër waarde as 'n gladmakende middel en sy verminderde neiging om uit te lek, is dit duidelik dat voorkeur aan *Metasilia* as 'n meganiese lakseermiddel gegee kan word.

Bevat Geen Suiker Nie. Omdat dit geen suiker bevat nie, is *Metasilia* veral geskik vir suikersiektelyers wat tegelykertyd ook deur kroniese ingewandstase gepla word.

Ander Voordele: Tydens swangerskap is dit 'n voortreflike lakseermiddel omdat dit so sag werk. Dit is ook besonder goed in gevalle van hardlywigheid wat van aambeie vergesel gaan, en waar moeilikheid met die ontlasting vermy moet word.

Metasilia is omtrent so dik soos room. Dit het nie 'n olierige smaak nie, en dit meng maklik met vloeistowwe en soliede stowwe.

Dit het 'n delikate, aangename smaak waarvan 'n mens nie moeg word nie.

Metasilia het geen verdowende effek nie—dit werk suiwer meganies.

Dit meng maklik met water of melk, en suigelinge en kinders hou daarvan.

Dosis: Volwassenes: Een eetlepelvol een of twee maal per dag.

Kinders: Een teelepelvol een of twee maal per dag.

Verpakking: Verkrygbaar in 8-ons bottels met n wye bek.

Enigste Suid-Afrikaanse Fabrikante: Abbott Laboratories S.A. (Pty.) Ltd., Booysensweg 223-225, Johannesburg.

PULVULES-PENISILLIEN-V, PEDIATRIES, LILLY

TABLETTE-PENISILLIEN-V-SULFA, LILLY

Volgende op die aanbieding van *Pulvules-Penisillien-V, Lilly*, 125 mg., word hierdie unieke, suurvaste, mondelinge penisillien nou ook beskikbaar gestel as *Pulvules-Penisillien-V, Pediatries, Lilly*. Elke *pulvule* bevat 60 mg.

Hierdie sterkte is besonder geskik as penisillien aan kinders gegee moet word, en die kapsule is so klein dat dit glad nie moeilik is om dit in te sluk nie. Aan baie jong kinders en suigelinge kan penisillien-V in die vorm van *Suspensie, Penisillien-V, Lilly, Pediatries* gegee word.

Pulvules-Penisillien-V, Pediatries, Lilly, is verkrygbaar is bottels bevattende 20 gevulde kapsules.

Ook verkrygbaar is 'n nuwe aanbiedingsvorm—*Tablette-Penisillien-V-Sulfa, Lilly*. Dit is 'n samestelling van penisillien-V met sulfonamiede. Iedere tablet bevat *Penisillien-V, Lilly*, 125 mg. (200,000 eenhede) met 'n totaal van 0.5 gm. sulfonamiede (gelyke hoeveelhede sulfadiasien, sulfamerasien en sulfadimidien).

Tablette-Penisillien-V-Sulfa word aangedui vir die behandeling van gemengde infeksies soos brongitis en asemhalingskwale, en in gevalle waar die oorsaaklike organismes net effens vatbaar vir een of die ander van die twee groepe middels is.

Tablette-Penisillien-V-Sulfa, Lilly, is verkrygbaar in bottels van 20.

STEMETIL (MAYBAKER)

Stemetil-merk 1-[3-(3-chloro-10-fenotiasiniel)propiel]-4-metiel-piperasien-dimaleaat is 'n nuwe fenotiasien-derivaat wat ten nouste aan *Largactil* verwant is. Dit kom ooreen met *Largactil* wat betref die bestek van sy farmakologiese effek, maar dit toon opvallende kwantitatiewe verskille. Dus is dit etlike kere aktiewer as braakbestrydingsmiddel, maar minder aktief by die vermindering van gekondisioneerde en instinkmatige refleksbedrywighede.

Kliniese ondersoek het aangetoon dat *Stemetil* van waarde is vir die simptomatiese beheer van:

(*a*) Migraine en verwante toestande;

(*b*) Ménière se sindroom en ander labirintkwale;

(*c*) Duiseligheid wat 'n ander oorsprong het;

(*d*) Mislikheid en braking.

Net soos ander fenotiasien-derivate kan *Stemetil* ook nuttig wees by die behandeling van psigiatriese kwale. Ondersoek hierna word nog ingestel, en die getuienis wat op die oomblik beskikbaar is, is nie voldoende vir definitiewe aanbevelings nie.

Stemetil word mondeling toegedien, of in die vorm van steekpille. Dit word beskikbaar gestel as tablette van 5 mg. in houers van 25 en 250, en as steekpille in dosies van 5 × 25 mg.

Nadere Inligting van: Maybaker (S.A.) (Pty.) Ltd., Posbus 1130, Port Elizabeth.

BOOK REVIEW

ATHEROSCLEROSIS AND ISCHAEMIC HEART DISEASE

Study Group on Atherosclerosis and Ischaemic Heart Disease: Report. World Health Organization: Technical Report Series, 1957, No. 117, pp. 40. 1s. 9d. Pretoria: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724.

This *Report* discusses present knowledge of the etiology and pathogenesis of atherosclerosis and ischaemic heart disease and advises on means of broadening this knowledge so as to provide an eventual basis for effective prevention work.

Ischaemic heart disease is defined in the *Report* as the cardiac disability, acute and chronic, arising from reduction or arrest of blood supply to the myocardium, in association with disease processes in the coronary arterial system. The two main pathological processes involved are atherosclerosis of, and thrombosis in, the coronary vessels. Atherosclerosis includes several quite distinct intimal processes, such as fatty changes, fibrous thickening, fibrin incorporation, and calcification. In ischaemic heart disease (the end product of atherosclerosis) multiple causative factors must therefore be considered. These multiple factors may operate differently and thereby produce different pictures in individual cases and in the disease as it occurs among various ethnic and social groups.

The main conclusion is that the control and prevention of ischaemic heart disease can be brought about only as a result of improved knowledge of the relation of environmental factors and ways of life to the pathogenesis of the disease and to the consequent morbidity and mortality. The lack of information on the relation to coagulation and thrombosis of such suspected factors as genetic and environmental influences, sex, specific inborn metabolic disorders, arterial hypertension, diet (with particular reference to dietary fats), level of physical activity, stress, strain and mental tension, deserve special emphasis in research work. Possible psychological factors also need adequate study. Suggested lines of research are set out, including, in an Annexure, a detailed description of the type of epidemiological study most likely to provide useful results. A second Annexure, on public health aspects of the disease, deals with such matters as case-finding, screening, diagnostic, social, laboratory and nutrition services, rehabilitation, etc.

The need for the standardization of both clinical and pathological criteria and terminology in respect of ischaemic heart disease, atherosclerosis and related conditions is regarded as sufficiently urgent to warrant the recommendation that WHO should organize a study group to undertake this task. It is also recommended that WHO should continue and expand the collection and regular publication of mortality statistics on cardiovascular and related diseases, and should consider giving assistance to national statistics services in developing the analysis of mortality by occupation and social class. Attention is also drawn to the need for improving the collection and recording of mortality data and for greater standardization of terms and procedures. Simple field studies on the basis of death certification in different countries might, it is thought, quite quickly reveal the possibilities and limitations of the international comparisons now so commonly made. Greater use of insurance company data on heart disease is advocated as an additional means of assessing the importance of the problem.

Further recommendations deal with the co-operation of FAO in studies on dietary habits and food consumption and WHO help in the training of research personnel and in various other suggested activities.

British Bursary for Post-Graduate Clinical Study in the United Kingdom

1. This Bursary has been established by grants from:
   B.P.D. (South Africa) (Pty.) Ltd.;
   British Drug Houses (South Africa) (Pty.) Ltd.;
   Distillers Company (Biochemicals) Ltd.;
   Evans Medical Supplies Ltd.;
   I.C.I. South Africa (Pharmaceuticals) Ltd.;
   The Crookes Laboratories Ltd.

2. Applications are invited from registered *general practitioners* who have been in active practice in South Africa for at least 10 years.

3. The Bursary is intended for post-graduate clinical study and not for medical research. It is available for not less than a 3-month period in the United Kingdom.

4. The total value of the Bursary is £600.

5. The candidate must submit a brief statement of his proposed course of study and indicate the institution at which he intends to undertake it.

6. No payments will be disbursed to the successful applicant until he has satisfied the Selection Committee that he has been accepted for the period of post-graduate study at an institution approved of by the Selection Committee.

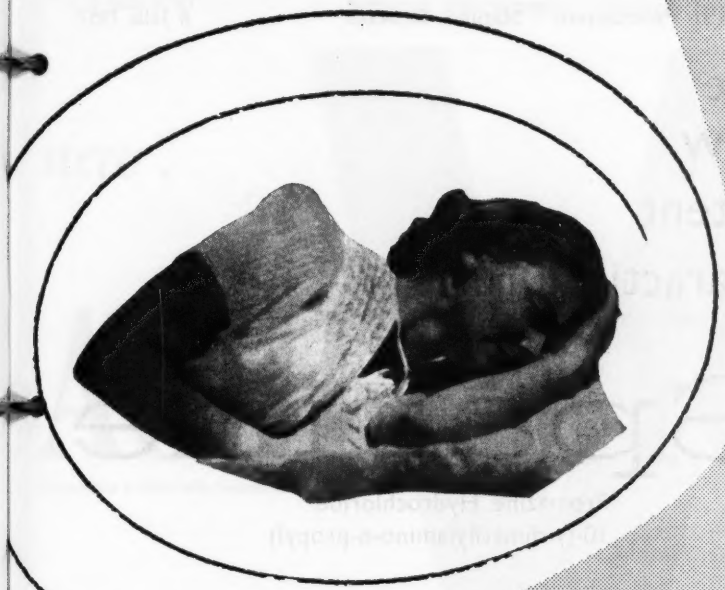
7. The successful candidate must undertake to return to South Africa for a period of at least 1 year after the termination of the award.

8. Applications must be made on the prescribed form which is obtainable from:
   Dr. H. A. Shapiro (Honorary Chairman),
   Selection Committee,
   British Bursary for Post-Graduate Clinical Study, P.O. Box 1010, Johannesburg.

The closing date for applications is 31 July 1957.

SELECTION COMMITTEE

The following have agreed to serve on the Selection Committee: Prof. G. A. Elliott, Prof. F. Forman, Prof. S. F. Oosthuizen, Dr. H. A. Shapiro, Dr. M. Shapiro, Dr. M. M. Suzman.



Pacatal...

puts pain in second place

Clinical tests have shown
that Pacatal helps relieve patient's anxieties and tensions
while relegating pain to a secondary place.

In cases of intractable pain, Pacatal is remarkably effective
in potentiating the analgesics used.

Available in Ampoules — 2 cc. (25 mg. per cc.)
and Tablets (25 mg. and 50 mg.)

WARNER PHARMACEUTICALS (PTY.) LTD.

6 - 10 SEARLE STREET, CAPE TOWN.

South African Medico-Legal Society

P.O. BOX 6434 • JOHANNESBURG

The object of this Society is the promotion of medico-legal knowledge in all its aspects.

This is attained *inter alia* by holding meetings at which papers are read and discussed.

To The Honorary Secretaries,
South African Medico-Legal Society,
P.O. Box 6434,
Johannesburg.

I, ...

.....

.....

.....

wish to apply for membership of the South African Medico-Legal Society.

I enclose my cheque for £2. 2. 0, being the subscription for 1 year.

• • •

Medical practitioners are invited to become members of this Society.

• • •

The annual subscription is £2. 2. 0. and entitles members to receive free the *Journal of Forensic Medicine*, published quarterly.

(J3/2H)

Published by the Proprietors Juta and Co. Ltd., 43 Pritchard Street, Johannesburg, and printed in the Union of South Africa by Cape Times Limited, Parow, C.P.